

**CLAIMS:**

1. An animal feed composition for monogastric non-human animals comprising agriculturally acceptable feed components supplemented with sinapic acid or a derivative thereof.
2. The composition of claim 1 wherein sinapic acid or a derivative thereof is in an isolated form.
3. The composition of claim 1 or 2 wherein sinapic acid or a derivative thereof is supplemented at a level of about 0.005 % to 3 % by weight.
4. The composition of claim 3 wherein sinapic acid or a derivative thereof is supplemented at a level of from 0.025% to 0.2% by weight.
5. The composition of any one of claims 1 to 4 wherein the derivative of sinapic acid is selected from:
  - salts of sinapic acid with inorganic acids, such as hydrochloride, hydrobromide, sulfate and phosphate;
  - salts of sinapic acid with organic acids, such as acetate, maleate, tartrate, methanesulfonate;
  - salts of sinapic acid with amino acids, such as arginine, aspartic acid and glutamic acid;
  - salts of sinapic acid with bases such as sodium hydroxide and potassium hydroxide, and
  - esters of sinapic acid esterified with C1 to C4 groups such as methyl, ethyl, propyl, and isobutyl sinapic acid.
6. A nutritional supplement for a monogastric animals comprising isolated sinapic acid or a derivative thereof in combination with an acceptable excipient.
7. The nutritional supplement of claim 6, wherein the monogastric animal is a non-human animal.

8. A method of promoting favourable microbial ecology in the intestinal tract of a monogastric animal comprising the step of providing the animal with feed supplemented with sinapic acid or a derivative thereof in an amount of from 0.0005% to about 3.0% by weight of feed.
9. The method of claim 8 wherein promoting favourable microbial ecology comprises reducing intestinal presence of at least one microbe selected from the group consisting of *Escherichia* and *Salmonella*; or increasing intestinal presence of at least one microbe selected from the group consisting of *Bifidobacterium* and *Propionibacterium*.
10. A method of improving the nutritional value of an animal feed composition for consumption by monogastric non-human animals comprising the step of supplementing the feed composition with sinapic acid or a derivative thereof.
11. The method of claim 10 wherein the composition is supplemented with sinapic acid or a derivative thereof at a level of about 0.0005 % to about 3 % by weight.
12. The method of claim 10 or 11 wherein sinapic acid or a derivative thereof is in an isolated form.
13. The method of any one of claims 10 to 12 wherein the animal is a livestock or domestic animal selected from the group consisting of: birds, pigs, dogs, cats, and fish.
14. The method of any one of claims 10 to 13 wherein improving the nutritional value of an animal feed composition comprises increasing the performance of a livestock animal consuming the animal feed composition.
15. The method of claim 14 wherein increasing the performance of a livestock animal comprises improving growth, energy utilization or feed consumption.

16. A method of reducing short chain fatty acid production in the hind gut of a monogastric animal comprising the step of administering an effective amount of sinapic acid or a derivative thereof to the monogastric animal.
17. The method of claim 16 wherein the effective amount is from about 0.0005% to about 3.0% by weight of feed consumption.
18. A method of increasing short chain fatty acid production in the ileum of a monogastric animal comprising the step of administering an effective amount of sinapic acid or a derivative thereof to the monogastric animal.
19. The method of claim 18 wherein the effective amount is from about 0.0005% to about 3.0% by weight of feed consumption.
20. A method of treating or preventing diseases of the intestinal tract arising from growth or colonization of the intestinal tract by pathogenic bacteria, said method comprising the step of administering an effective amount of sinapic acid or a derivative thereof to a monogastric animal in need thereof.
21. The method of claim 20 wherein the effective amount is from about 0.0005% to about 3.0% by weight of feed consumption.